## **CLAIMS**

1. A compound of formula (I) or a pharmaceutically acceptable salt thereof:

$$R^{1} Z - N \qquad (I)$$

$$R^{2} I_{m} \qquad (R^{3})_{n} \qquad (R^{3})_{n} \qquad (R^{4})_{n} \qquad (I)$$

wherein:

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 $R^1$  represents  $-C_{1-6}$  alkyl $-O-C_{1-6}$  alkyl,  $-C_{3-8}$  cycloalkyl, aryl, heterocyclyl, heteroaryl,  $-C_{1-6}$  alkyl-aryl,  $-C_{1-6}$  alkyl-heterocyclyl, -aryl-X-aryl, -aryl-X-heteroaryl, -aryl-X-heteroaryl-X-heteroaryl-X-heteroaryl-X-

heterocyclyl, -heterocyclyl-X-aryl, -heterocyclyl-X-heterocyclyl-X-heterocyclyl,

wherein said  $C_{1-6}$  alkyl,  $C_{3-8}$  cycloalkyl, aryl, heteroaryl and heterocyclyl groups of  $R^1$  may be optionally substituted by one or more (eg. 1, 2 or 3) substituents which may be the same or different, and which are selected from the group consisting of halogen, hydroxy,

cyano, nitro, oxo, haloC<sub>1-6</sub> alkyl, polyhaloC<sub>1-6</sub> alkyl, haloC<sub>1-6</sub> alkoxy, polyhaloC<sub>1-6</sub> alkoxy, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> alkylthio, C<sub>1-6</sub> alkoxyC<sub>1-6</sub> alkyl, C<sub>3-7</sub> cycloalkylC<sub>1-6</sub> alkoxy, C<sub>1-6</sub> alkanoyl, C<sub>1-6</sub> alkoxycarbonyl, C<sub>1-6</sub> alkylsulfonyl, C<sub>1-6</sub> alkylsulfonyloxy, C<sub>1-6</sub> alkylsulfonylC<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkylsulfonyloxy, arylsulfonyl, arylsulfonyloxy, arylsulfonamido, arylcarboxamido, aroyl, or a group

20 NR<sup>15</sup>R<sup>16</sup>, -CONR<sup>15</sup>R<sup>16</sup>, -NR<sup>15</sup>COR<sup>16</sup>, -NR<sup>15</sup>SO<sub>2</sub>R<sup>16</sup> or -SO<sub>2</sub>NR<sup>15</sup>R<sup>16</sup>, wherein R<sup>15</sup> and R<sup>16</sup> independently represent hydrogen or C<sub>1-6</sub> alkyl or together form a heterocyclic ring; X represents a bond, O, CO, OCH<sub>2</sub>, CH<sub>2</sub>O or SO<sub>2</sub>;

Z represents CO, CONR<sup>10</sup> or SO<sub>2</sub>;

R<sup>10</sup> represents hydrogen, C<sub>1-8</sub> alkyl, -C<sub>3-8</sub> cycloalkyl, aryl, heterocyclyl, heteroaryl;

25 represents a single or a double bond;

m and n independently represent 0, 1 or 2;

R<sup>2</sup> represents hydrogen, C<sub>1-6</sub> alkyl or C<sub>1-6</sub> alkoxy;

 $R^3$  represents halogen,  $C_{1-6}$  alkyl, hydroxy,  $C_{1-6}$  alkoxy, cyano, amino, -COC<sub>1-6</sub> alkyl, -SO<sub>2</sub>C<sub>1-6</sub> alkyl or trifluoromethyl;

30  $R^4$  represents -(CH<sub>2</sub>)<sub>q</sub>-NR<sup>11</sup>R<sup>12</sup> or a group of formula (i):

$$-(CH_2)_f$$
  $N-R^{13}$  (i)

wherein q is 2, 3 or 4;

-NR<sup>11</sup>R<sup>12</sup> represents a heterocyclic group optionally substituted by one or more (eg. 1, 2 or 3) R<sup>17</sup> groups;

R<sup>13</sup> represents  $C_{1-8}$  alkyl,  $C_{3-8}$  cycloalkyl,  $-C_{1-6}$  alkyl- $C_{1-6}$  alkoxy,  $-C_{1-6}$  alkyl- $C_{3-8}$  cycloalkyl;  $R^{14}$  and  $R^{17}$  independently represent halogen,  $C_{1-6}$  alkyl, haloalkyl, OH or  $C_{1-6}$  alkoxy;

f is 0 or 1; g is 1 or 2 k is 0, 1 or 2 or a pharmaceutically acceptable salt thereof.

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- A compound as defined in claim 1 wherein R¹ represents:

   -aryl optionally substituted by 1 or 2 halogen, haloC₁-8 alkyl, cyano or SO₂Me groups;
  - -aryl-X-heterocyclyl;
- -heteroaryl optionally substituted by 1 or 2 halo $C_{1-8}$  alkyl or cyano groups;
  - -heterocyclyl optionally substituted by 1 or 2 oxo groups; or
  - -C<sub>1-6</sub> alkyl-O-C<sub>1-6</sub> alkyl.
- 3. A compound as defined in claim 2 wherein R<sup>1</sup> represents tetrahydropyranyl, 4-cyanophenyl, 2-cyanopyridin-3-yl or 2-trifluoromethylpyridin-3-yl.
  - 4. A compound as defined in claim 3 wherein R<sup>1</sup> represents 4-cyanophenyl.
- 5. A compound as defined in any one of claims 1 to 4 wherein X and Z both represent CO.
  - 6. A compound as defined in any one of claims 1 to 5 wherein represents a single bond.
- 7. A compound as defined in any one of claims 1 to 6 wherein m and n both represent 0.
- A compound as defined in any one of claims 1 to 7 wherein R<sup>4</sup> represents (CH<sub>2</sub>)<sub>q</sub>-NR<sup>11</sup>R<sup>12</sup>, q represents 3 and -NR<sup>11</sup>R<sup>12</sup> represents N-piperidinyl or N-pyrrolidinyl optionally substituted by 1 or 2 C<sub>1-6</sub> alkyl groups or R<sup>4</sup> represents a group of formula (i) wherein f and k both represent 0, g represents 2 and R<sup>13</sup> represents C<sub>1-6</sub> alkyl or C<sub>3-8</sub> cycloalkyl.
- 9. A compound as defined in claim 8 wherein R<sup>4</sup> represents a group of formula (i) wherein f and k both represent 0, g represents 2 and R<sup>13</sup> represents i-propyl.
  - 10. A compound as defined in claim 1 which is: 4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-(tetrahydro-2*H*-pyran-4-ylcarbonyl)piperidine; 4-{[4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-piperidinyl]carbonyl}benzonitrile;
- 4-{[4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-piperidinyl]carbonyl}pyridine; 4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-{[4-(1-pyrrolidinylcarbonyl)phenyl] carbonyl}piperidine;

1-{[4-(Methylsulfonyl)phenyl]carbonyl}-4-(4-{[3-(1-piperidinyl) propyl] oxy} phenyl) piperidine;

- 1-[(4-Fluorophenyl)carbonyl]-4-(4-{[3-(1-piperidinyl)propyl]oxy}phenyl)piperidine;
- 3-{[4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-piperidinyl]carbonyl}pyridine;
- 5 4-{[4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-piperidinyl]carbonyl}morpholine;
  - 1-(1-Piperidinylorapyl)-4-(4-{[3-(1-piperidinyl)propyl]oxy}phenyl)piperidine;
  - 4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-(1-pyrrolidinylcarbonyl)piperidine; 1-(4-Fluoro-phenyl)-1-{4-[4-(1- isopropyl-piperidin-4-yloxy)-phenyl]-piperidin-1-yl}-methanone:
- 1-(1-Methylethyl)-4-{[4-(1-{[4-(1-pyrrolidinylcarbonyl)phenyl]carbonyl}-4-piperidinyl)phenyl]oxy}piperidine;
  - 1-(1-Methylethyl)-4-({4-[1-(tetrahydro-2*H*-pyran-4-ylcarbonyl)-4-piperidinyl] phenyl}oxy)piperidine;
  - 1-(1-Methylethyl)-4-{[4-(methylsulfonyl)phenyl]carbonyl}-4-
- 15 piperidinyl)phenyl]oxy}piperidine;

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- 1-(1-Methylethyl)-4-[(4-{1-[3-(methyloxy)propanoyl]-4-piperidinyl} phenyl)oxy]piperidine;
- 4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-piperidinyl] carbonyl}pyridine;
- 3-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-piperidinyl] carbonyl}pyridine;
- 4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-piperidinyl]carbonyl} morpholine;
- 20 1-(1-Azetidinylcarbonyl)-4-(4-{[1-(1-methylethyl)-4-piperidinyl]oxy}phenyl) piperidine;
  - 1-(1-Methylethyl)-4-({4-[1-(1-pyrrolidinylcarbonyl)-4-piperidinyl] phenyl}oxy)piperidine;
  - 1-(1-Methylethyl)-4-({4-[1-(1-piperidinylcarbonyl)-4-piperidinyl]phenyl}oxy)piperidine;
  - 4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-piperidinyl] carbonyl} thiomorpholine 1,1-dioxide;
- 4-[(4-{4-[(1-Cyclobutyl-4-piperidinyl)oxy] phenyl}-1-piperidinyl)carbonyl] benzonitrile;
  - 1-Cyclobutyl-4-[(4-{1-[(4-fluorophenyl) carbonyl]-4-piperidinyl}phenyl) oxy] piperidine;
  - 1-Cyclobutyl-4-{[4-(1-{[4-(1-pyrrolidinylcarbonyl)phenyl]carbonyl}-4-piperidinyl)phenyl]oxy}piperidine;
  - 1-Cyclobutyl-4-[(4-{1-[3-(methyloxy) propanoyl]-4-piperidinyl} phenyl)oxy] piperidine;
- 30 4-[(4-{4-[(1-Cyclobutyl-4-piperidinyl)oxy] phenyl}-1-piperidinyl)carbonyl]pyridine;
  - 3-[(4-{4-[(1-Cyclobutyl-4-piperidinyl)oxy]phenyl}-1-piperidinyl)carbonyl]pyridine;
  - 4-[(4-{4-[(1-Cyclobutyl-4-piperidinyl)oxy]phenyl}-1-piperidinyl)carbonyl]morpholine;
  - 1-[(4-Fluorophenyl)carbonyl]-4-(4-{[3-(1-piperidinyl)propyl]oxy}phenyl)-1,2,3,6-tetrahydropyridine;
- 35 4-{[4-(4-{[3-(1-Piperidinyl)propyl]oxy} phenyl)-3,6-dihydro-1(2*H*)-pyridinyl] carbonyl} benzonitrile;
  - 4-(4-{[3-(1-Piperidinyl)propyl] oxy}phenyl)-1-{[4-(1-pyrrolidinylcarbonyl)phenyl]carbonyl}-1,2,3,6-tetrahydropyridine;
  - 4-(4-{[3-(1-Piperidinyl)propyl] oxy} phenyl)-1-(tetrahydro-2*H*-pyran-4-ylcarbonyl)-1,2,3,6-tetrahydropyridine:
    - 1-{[4-(Methylsulfonyl)phenyl]carbonyl}-4-(4-{[3-(1-piperidinyl)propyl]oxy} phenyl) -1,2,3,6-tetrahydropyridine;

 $4-\{[4-(4-\{[3-(1-Piperidinyl])propyl]oxy\}phenyl)-3,6-dihydro-1(2H)-pyridinyl]carbonyl\}morpholine;$ 

- 1-(1-Piperidinylcarbonyl)-4-(4-{[3-(1-piperidinyl)propyl]oxy}phenyl)-1,2,3,6-tetrahydropyridine;
- 5 4-(4-{[3-(1-Piperidinyl)propyl]oxy} phenyl)-1-(1-pyrrolidinylcarbonyl)-1,2,3,6-tetrahydropyridine;
  - 1-[(4-Fluorophenyl)carbonyl]-4-(4-{[1-(1-methylethyl)-4-piperidinyl]oxy}phenyl)-1,2,3,6-tetrahydropyridine;
  - 4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-3,6-dihydro-1(2H)-
- 10 pyridinyl]carbonyl}benzonitrile;
  - 4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-{[4-(1-pyrrolidinylcarbonyl)phenyl]carbonyl}-1,2,3,6-tetrahydropyridine;
  - 4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy} phenyl)-1-(tetrahydro-2*H*-pyran-4-ylcarbonyl)-1,2,3,6-tetrahydropyridine;
- 4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-{[4-(methylsulfonyl)phenyl]carbonyl}-1,2,3,6-tetrahydropyridine;
  - 4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-3,6-dihydro-1(2*H*)-pyridinyl]carbonyl}pyridine;
  - 4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-3,6-dihydro-1(2H)-
- 20 pyridinyl]carbonyl}morpholine;
  - 4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-(1-piperidinylcarbonyl)-1,2,3,6-tetrahydropyridine;
  - 4-(4-{[1-(1-Methylethyl)-4-piperidinyl] oxy}phenyl)-1-(1-pyrrolidinyl carbonyl)-1,2,3,6-tetrahydropyridine;
- 4-({4-[4-({3-[(2R)-2-Methyl-1-pyrrolidinyl]propyl}oxy)phenyl]-1-piperidinyl} carbonyl)benzonitrile;
  - $4-[4-(\{3-[(2R)-2-Methyl-1-pyrrolidinyl]propyl\}oxy)phenyl]-1-(tetrahydro-2\textit{H-}pyran-4-ylcarbonyl)piperidine; \\$
  - 4-[4-({3-[(2R,5R)-2,5-Dimethyl-1-pyrrolidinyl]propyl}oxy)phenyl]-1-(tetrahydro-2*H*-pyran-
- 30 4-ylcarbonyl)piperidine;
  - 2-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl] oxy}phenyl)-1-piperidinyl]carbonyl} pyrazine; 3-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl] oxy}phenyl)-1-piperidinyl]carbonyl} benzonitrile; 1-(1-Methylethyl)-4-{[4-(1-{[4-(trifluoromethyl)phenyl]carbonyl}-4-piperidinyl)phenyl]oxy}piperidine:
- 6-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl] oxy}phenyl)-1-piperidinyl]carbonyl} quinoxaline; or a pharmaceutically acceptable salt thereof.
  - 11. A compound as defined in claim 1 which is:
  - 5-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl] oxy}phenyl)-1-piperidinyl]carbonyl}-2-
- pyridinecarbonitrile; and 5-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl] oxy}phenyl)-1-piperidinyl]carbonyl}-2- (trifluoromethyl)pyridine:

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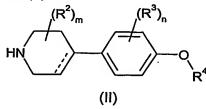
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or a pharmaceutically acceptable salt thereof.

- 12. A compound as defined in claim 1 which is: 4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-piperidinyl] carbonyl} benzonitrile or a pharmaceutically acceptable salt thereof.
  - 13. A pharmaceutical composition which comprises the compound of formula (I) as defined in any one of claims 1 to 12 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier or excipient.
  - 14. A compound as defined in any one of claims 1 to 12 for use in therapy.
  - 15. A compound as defined in any one of claims 1 to 12 for use in the treatment of neurological diseases.
  - 16. Use of a compound as defined in any one of claims 1 to 12 in the manufacture of a medicament for the treatment of neurological diseases.
- 17. A method of treatment of neurological diseases which comprises administering to a host in need thereof an effective amount of a compound of formula (I) as defined in any one of claims 1 to 12 or a pharmaceutically acceptable salt thereof.
  - 18. A pharmaceutical composition for use in the treatment of neurological diseases which comprises the compound of formula (I) as defined in any one of claims 1 to 12 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier.
  - 19. A process for the preparation of a compound of formula (I) or a pharmaceutically acceptable salt thereof, which process comprises:
  - (a) preparing a compound of formula (I) wherein Z represents CO which comprises reacting a compound of formula (II)



or an optionally activated or protected derivative thereof, wherein R<sup>2</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, m and n are as defined in claim 1, with a compound of formula R<sup>1</sup>-CO-L<sup>1</sup>, wherein R<sup>1</sup> is as defined in claim 1 and L<sup>1</sup> represents a suitable leaving group such as a suitable halogen atom, or a hydroxyl group; or

(b) preparing a compound of formula (I) wherein Z represents  $SO_2$  which comprises reacting a compound of formula (II), with a compound of formula  $R^1$ - $SO_2$ - $L^2$ , wherein  $R^1$  is as defined in claim 1and  $L^2$  represents a suitable leaving group, such as a suitable halogen atom (eg. chlorine); or

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- (c) preparing a compound of formula (I) wherein Z represents CONH which comprises reacting a compound of formula (II), with a compound of formula  $R^1$ -N=C=O, wherein  $R^1$  is as defined in claim 1; or
- (d) preparing a compound of formula (I) wherein Z represents CONR<sup>10</sup> which comprises reacting a compound of formula (II), with a compound of formula R<sup>1</sup>R<sup>10</sup>N-L<sup>3</sup>, wherein R<sup>1</sup> and R<sup>10</sup> are as defined in claim 1 and L<sup>3</sup> represents hydrogen or COCI; or
- (e) deprotecting a compound of formula (I) or converting groups which are protected; and optionally thereafter
  - (f) interconversion to other compounds of formula (I).